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In the Supreme Court of the United States

LIFE TECHNOLOGIES CORPORATION, ET AL.,
PETITIONERS

v.

PROMEGA CORPORATION

ON WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

BRIEF FOR THE UNITED STATES AS AMICUS CURIAE SUPPORTING PETITIONERS

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QUESTION PRESENTED

Section 271(f)(1) of the Patent Act of 1952 prohibits the "suppl[y] * * * from the United States [of] all or a substantial portion of the components of a patented invention" for combination abroad. 35 U.S.C. 271(f)(1). An adjacent provision, Section 271(f)(2), prohibits the "suppl[y] * * * from the United States [of] any component of a patented invention that is especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use." 35 U.S.C. 271(f)(2). The question presented is as follows:

Whether a supplier can be held liable under Section 271(f)(1) for providing "all or a substantial portion of the components of a patented invention" when the supplier ships for combination abroad a single, commodity component of a multi-component invention.

TABLE OF CONTENTS

Page

Interest of the United States 1
Statement 2
Summary of the argument 8
Argument 11
A. The statutory text indicates that Section 271(f)(1) does not reach the supply of a single component 12
B. The differences between Section 271(f)'s two paragraphs reinforce the conclusion that paragraph (1) does not reach the supply of a single component 17
C. The statutory purpose and practical considerations reinforce the conclusion that Section 271(f)(1) does not reach the supply of a single component 22
D. The presumption against extraterritoriality resolves any lingering ambiguity 28
Conclusion 31

TABLE OF AUTHORITIES

Cases:

Bullard v. *Blue Hills Bank*, 135 S. Ct. 1686 (2015) 24
Deepsouth Packing Co. v. *Laitram Corp.*, 406 U.S. 518 (1972) 2, 10, 12, 22
F. Hoffmann-La Roche Ltd. v. *Empagran S.A.*, 542 U.S. 155 (2004) 30
Freeman v. *Quicken Loans, Inc.*, 132 S. Ct. 2034 (2012) 13
Global-Tech Appliances, Inc. v. *SEB S.A.*, 563 U.S. 754 (2011) 21
Jarecki v. *G. D. Searle & Co.*, 367 U.S. 303 (1961) 13
McDonnell v. *United States*, 136 S. Ct. 2355 (2016) 13
Microsoft Corp. v. *AT&T Corp.*, 550 U.S. 437 (2007) ..... *passim*
Smith v. *United States*, 507 U.S. 197 (1993) 29

Statutes and regulations: Page

Patent Act of 1952, 35 U.S.C. 1 *et seq.*:
35 U.S.C. 2(a)(1) 1
35 U.S.C. 2(b)(8) 1
35 U.S.C. 271(a) 2, 29
35 U.S.C. 271(b) 21
35 U.S.C. 271(f) 2, 3, 9, 17, 18, 27
35 U.S.C. 271(f)(1) ..... *passim*
35 U.S.C. 271(f)(2) ..... *passim*
35 U.S.C. 286 4
26 C.F.R.:
Section 301.7701-15(a) 15
Section 301.7701-15(b)(3)(i) 15

Miscellaneous:

Black's Law Dictionary (10th ed. 2014) 12
Daniel Kahneman, *Thinking, Fast and Slow* (2011) 25
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Vol. 1 13
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(1981) 14
(1993) 13

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INTEREST OF THE UNITED STATES

This case presents the question whether U.S. patent law restricts U.S. exporters from sending a single, commodity article overseas when the recipient uses that article abroad to assemble an invention that is covered by a U.S. patent. The United States Patent and Trademark Office is responsible for granting and issuing patents and advising the President on issues of patent policy. 35 U.S.C. 2(a)(1) and (b)(8). The application of U.S. patent law to the participation of U.S. exporters in foreign markets also raises issues concerning the competitiveness of American companies abroad and the respective roles of the United States' and other nations' patent laws, issues of concern to the Department of Commerce. The United States therefore has a substantial interest in the Court's resolu-

tion of the question presented here. At the invitation of the Court, the United States filed a brief as amicus curiae at the petition stage of this case.

STATEMENT

1. a. In general, whoever without authority makes, uses, or sells a patented invention "within the United States" is liable for patent infringement. 35 U.S.C. 271(a). In *Deepsouth Packing Co.* v. *Laitram Corp.*, 406 U.S. 518 (1972) (*Deepsouth*), this Court held that a company did not violate Section 271(a) when it manufactured all of the component parts of a patented machine in the United States but shipped those parts overseas for final assembly abroad rather than assembling the parts itself. *Id.* at 523-524. This Court explained that "it is not an infringement [under Section 271(a)] to make or use a patented product outside of the United States," *id.* at 527, and that the invention was not made until its components were combined abroad, *id.* at 528-529. In reaching that conclusion, the Court relied in part on the presumption that Congress does not intend to regulate extraterritorially absent "a clear * * * indication of intent" to do so. *Id.* at 532; see *id.* at 531. This Court found no such indication in Section 271(a). *Ibid.*

b. Congress responded to *Deepsouth* by enacting 35 U.S.C. 271(f). Section 271(f) consists of two paragraphs. Paragraph (1) provides:

> Whoever without authority supplies or causes to be supplied in or from the United States all or a substantial portion of the components of a patented invention, where such components are uncombined in whole or in part, in such manner as to actively induce the combination of such components outside of the United States in a manner that would infringe

> the patent if such combination occurred within the United States, shall be liable as an infringer.

35 U.S.C. 271(f)(1). Paragraph (2) provides:

> Whoever without authority supplies or causes to be supplied in or from the United States any component of a patented invention that is especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use, where such component is uncombined in whole or in part, knowing that such component is so made or adapted and intending that such component will be combined outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.

35 U.S.C. 271(f)(2).

c. This Court first interpreted Section 271(f) in *Microsoft Corp.* v. *AT&T Corp.*, 550 U.S. 437 (2007). The defendant in that case shipped a master version of computer software abroad, where customers made copies and installed the copies on computers. *Id.* at 441. The plaintiff owned a patent that would have been infringed by the installation of the software on a computer in the United States. *Id.* at 441-442. This Court held that the defendant was not liable under Section 271(f) because it had not supplied a component of the invention "from the United States." *Id.* at 452-454. The Court explained that the master software supplied from the United States was not a "component" within the meaning of Section 271(f) because it was not directly installed on the computers, and that

the copies that were installed were made abroad. *Id.* at 449-452.

This Court found that "[a]ny doubt" about whether Microsoft's conduct fell within Section 271(f)(1) "would be resolved by the presumption against extraterritoriality." *Microsoft*, 550 U.S. at 454. The Court explained that, even when a particular federal law is clearly intended to address foreign conduct, the presumption "remains instructive in determining the *extent* of the statutory exception." *Id.* at 456. The Court found no indication that Congress intended domestic actors to be liable for simply supplying "information, instructions, or other materials needed to make copies abroad." *Id.* at 458.

2. a. Respondent was the exclusive licensee of a U.S. patent claiming a kit for copying short repeated sequences of DNA. Pet. App. 2a, 5a.[1] The kit copies certain DNA sequences in order to enable analysts to determine whether a DNA sample came from a particular individual. *Id.* at 3a-5a.

The human genome repeats short sequences of nucleotides, the building blocks of DNA, in many places. Pet. App. 2a-3a. "For example, the DNA sequence ATT (adenine-thymine-thymine) may be repeated ten times in a row in a particular location." *Ibid.* The number of repetitions at a given location "varies highly from person to person." *Id.* at 3a. "For example, one individual's DNA may have eleven ATT repeats" at a particular location, "while another individual may

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[1] Initially, five patents were at issue. The Federal Circuit held that four of the patents were invalid. Pet. App. 22a. The remaining patent has expired, Br. in Opp. 3, but a patentee or exclusive licensee may seek damages for infringement during the patent's term and within the six years preceding the suit. 35 U.S.C. 286.

have fourteen" at the same location. *Ibid.* These variations, when compared across many such locations, allow analysts to determine the likelihood that a DNA sample came from a given person. *Ibid.*

To perform this kind of analysis, the relevant locations in the DNA sample must be copied many times. The testing kits at issue here perform this process of "amplification." Pet. App. 3a. The kits are made up of at least five components: (1) a mix of primers, which mark the start and finish of the locations in the sample DNA to be copied; (2) a reaction mix, which contains the nucleotide building blocks that will produce the copied DNA; (3) a buffer solution, which provides the background biochemical conditions necessary for copying; (4) an enzyme, generally *Taq* polymerase, that catalyzes the reaction that actually assembles the nucleotides into copies of the marked locations; and (5) control DNA to verify the accuracy of the copies. *Id.* at 8a.

Respondent granted petitioners a license to make and sell the patented kit for activities relating to legal proceedings, but not for other uses. Pet. App. 9a. After petitioners manufactured and sold the kits for unlicensed purposes, such as clinical diagnostics, respondent filed this action for patent infringement, seeking damages for both domestic and foreign sales of infringing kits. *Id.* at 44a-45a.

As relevant here, respondent alleged that petitioners' worldwide kit sales constituted infringement under Section 271(f)(1) because petitioners had supplied one component—the *Taq* polymerase—from the United States to petitioners' manufacturing facility in the United Kingdom, which manufactured or otherwise obtained the remaining four components and assembled

the patented kits. Pet. App. 34a & n.15. Respondent did not allege infringement under Section 271(f)(2) because it is undisputed that the *Taq* polymerase is "a staple article or commodity of commerce suitable for substantial noninfringing use." *Id.* at 30a n.14 (quoting 35 U.S.C. 271(f)(2)). After a trial, the jury returned a verdict in favor of respondent and awarded more than $50 million in damages, including damages for petitioners' total domestic and foreign sales. *Id.* at 11a.

b. Petitioners moved for judgment as a matter of law, asserting that Section 271(f)(1) did not apply to their conduct, and that it was therefore improper to award damages for kits sold outside the United States. See Pet. App. 11a. As relevant here, petitioners argued that they had not supplied "all or a substantial portion of the components" of the kits from the United States because they had shipped only a single component from this country. *Id.* at 51a. The district court agreed and granted judgment as a matter of law. The court held that Section 271(f)(1)'s reference to "all or a substantial portion" of an invention's components requires that multiple components be supplied from the United States. *Id.* at 54a-57a.[2]

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[2] Petitioners also argued that the evidence had not shown that the domestic shipper and the foreign recipient in this case were separate legal entities. Petitioners argued that respondent had therefore failed to prove that any petitioner had "actively induce[d] the combination" of the invention's components, 35 U.S.C. 271(f)(1), because (in petitioners' view) a single legal entity cannot induce itself to combine the components of an invention. Pet. App. 59a. The district court agreed with petitioners and granted judgment as a matter of law on that independent ground. *Id.* at 63a. The court of appeals reversed, *id.* at 24a, and this Court did not grant review on that question.

3. The court of appeals reversed and remanded in relevant part. Pet. App. 1a-38a. The court held that a single, commodity component can be a "substantial portion of the components of a patented invention" if that component is a sufficiently important part of the invention. *Id.* at 28a-35a. In the court's view, Section 271(f)(1) uses the term "substantial" in a qualitative sense, to mean "'important' or 'essential.'" *Id.* at 28a (citations omitted).

The court of appeals held that the record adequately supported the jury's conclusion that *Taq* polymerase itself "is a 'substantial portion' of the components" of respondent's patented kits. Pet. App. 33a. The court observed that *Taq* polymerase catalyzes the reaction that results in copying of the specified strands of DNA. *Id.* at 33a-34a. The court concluded that "[w]ithout *Taq* polymerase, the genetic testing kit recited in the [relevant] patent would be inoperable because no [copying] could occur." *Id.* at 34a. The court also observed that petitioners' "own witness admitted that the *Taq* polymerase is one of the 'main' and 'major' components of the accused kits." *Ibid.* (citation omitted).

The court of appeals reinstated the jury's verdict that petitioners were liable for infringement under Section 271(f)(1). Pet. App. 37a. Because the court had held that four of the five patents at issue were invalid, see note 1, *supra*, the court vacated the jury's damages award and remanded for determination of "damages due to [petitioners'] infringement of" the remaining patent. Pet. App. 38a.[3]

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[3] Chief Judge Prost dissented from the majority's active-inducement holding. Pet. App. 39a-43a. She did not reach "the alternative argument" that petitioners were not liable because

SUMMARY OF THE ARGUMENT

The question presented in this case concerns the application of U.S. patent law to kits that were covered by a U.S. patent but were manufactured and sold abroad. The court of appeals held that petitioners could be held liable under 35 U.S.C. 271(f)(1) for supplying a single, commodity component of those kits from this country. That holding was erroneous.

Section 271(f)(1) applies only to the domestic supply of "all or a substantial portion of the components of a patented invention." 35 U.S.C. 271(f)(1). In the court of appeals' view, a reasonable jury could find that *Taq* polymerase was "a substantial portion of the components of" respondent's patented invention because it "is one of the 'main' and 'major' components of the accused kits." Pet. App. 34a. Undoubtedly there are many contexts in which a single important component could reasonably be described as a "substantial portion" of a larger whole. The statutory scheme at issue here, however, contains several indications that Section 271(f)(1) does not cover the supply of a single component, and that the phrase "all or a substantial portion of the components" means all or something close to all of the components, rather than just one. The series of events that led to Section 271(f)(1)'s enactment, and the presumption against extraterritorial application of U.S. patent law, reinforce that conclusion.

A. A single important component might naturally be described as a "substantial portion *of an invention*." But Congress used a different phrase, and it would be unusual to describe one component as a

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they had supplied only a single component from the United States. *Id.* at 39a n.1.

"substantial portion *of the components* of a patented invention." 35 U.S.C. 271(f)(1) (emphasis added). That phrasing indicates that the provision's applicability should turn on a comparison between the number of components supplied and the total number of components, rather than on an assessment of the importance of an individual component to the invention as a whole.

B. The interplay between Section 271(f)'s two paragraphs reinforces that conclusion. In paragraph (2), Congress specifically addressed the circumstances under which supply of a single component will give rise to infringement liability. Congress protected American exporters against potentially sweeping liability by making that provision applicable only when the component supplied from the United States is "especially made or especially adapted for use in the [patented] invention and not a staple article or commodity of commerce." 35 U.S.C. 271(f)(2). That carefully crafted limit on liability would be substantially undermined if the domestic supplier of a single "staple article or commodity" could be held liable under paragraph (1).

If Congress had intended to create an alternative basis for liability in single-component cases, by providing that supply from the United States of a "main" or "major" component is infringing even if that component is a staple article, paragraph (2) would have been the natural place to put that prohibition. Paragraph (1), by contrast, defines the circumstances under which supply of multiple components is prohibited even when none of those components is especially created for use in the patented invention. The contrast between paragraph (1)'s repeated uses of the plural "components," and paragraph (2)'s repeated uses of the singular "component," reinforces the under-

standing that the two paragraphs serve those distinct purposes.

C. Congress enacted Section 271(f)(1) in response to this Court's decision in *Deepsouth Packing Co.* v. *Laitram Corp.*, 406 U.S. 518 (1972), which involved the domestic supply of all of the components of a patented invention for ready assembly abroad. Congress viewed that conduct as tantamount to manufacturing the completed invention in the United States and then exporting it, and Congress enacted Section 271(f)(1) to prohibit that kind of evasion. If Congress had limited Section 271(f)(1) to the supply of *all* the components of a patented invention, however, the provision would not have achieved its anti-circumvention purpose, because a domestic supplier could simply supply from the United States all the components except one. The phrase "all or a substantial portion of the components" suggests a focus on conduct that closely resembles the evasive conduct in *Deepsouth* and can reasonably be viewed as the functional equivalent of illicitly manufacturing the patented invention in the United States for export. By contrast, when a finished product is manufactured and sold abroad, and every component but one is supplied from abroad, the domestic supply of that one component bears little resemblance to effectively manufacturing the invention in the United States—the *Deepsouth* paradigm that Congress was trying to address.

Focusing on the number of components supplied from the United States is also a more viable and administrable approach than the court of appeals' qualitative test, which is unduly expansive and unpredictable. The court suggested that a component may be sufficiently important if the invention "would be inop-

erable" without it. Pet. App. 34a. But the omission of even relatively trivial components will often render an invention inoperable. The court also suggested that a component is sufficiently important if it is a "main" or "major" component. *Ibid.* But neither the court nor respondent has articulated a workable definition of those terms, and the court's opinion suggests that three of the five identified components here would qualify. Under that approach, each of three separate companies could potentially be held liable under Section 271(f)(1) for supplying "a substantial portion of the components" from the United States.

D. The presumption against extraterritorial application of U.S. law requires that, to the extent Section 271(f)(1) is ambiguous, it should be construed in a way that minimizes its impact on foreign conduct. See *Microsoft Corp.* v. *AT&T Corp.*, 550 U.S. 437, 456 (2007). Under the court of appeals' approach, the domestic supplier of a single, commodity component of a patented invention can be held liable for infringement under U.S. law even though the rest of the relevant conduct—the supply of every other component, the assembly into the finished product, and the sale of the finished product—occurs abroad and would ordinarily be regulated under foreign law. At the very least, Congress has not clearly mandated that interpretation, and it should accordingly be rejected.

ARGUMENT

When a product is manufactured abroad, and all but one of its components are supplied from abroad, the supplier of the lone domestically-supplied component is not liable under Section 271(f)(1). Section 271(f)(1) prohibits supplying from the United States "all or a substantial portion of the components of a

patented invention," in a manner that "actively induce[s] the combination of such components outside of the United States." 35 U.S.C. 271(f)(1). That provision is best understood to reach a person who supplies all or something close to all of the components of an invention from the United States, and thus to prohibit the kind of evasion that was involved in *Deepsouth Packing Co.* v. *Laitram Corp.*, 406 U.S. 518 (1972). The court of appeals' more expansive interpretation is inconsistent with the statutory text and context, would impose liability for conduct that bears little resemblance to the circumvention involved in *Deepsouth*, and would render Section 271(f)(1) applicable to conduct that is foreign in every respect except one.

A. The Statutory Text Indicates That Section 271(f)(1) Does Not Reach The Supply Of A Single Component

The term "substantial portion," taken in isolation, could refer to an *important* portion, a *large* portion, or to both. The word "substantial" is derived from the word "substance," and modern dictionaries include definitions that refer both to qualitative importance and to quantitatively large size. See Michael J. Malaguti, *Substantial Confusion: The Use and Misuse of the Word "Substantial" in the Legal Profession*, 52 N.H. Bar J. 6, 8 (2011) (discussing this ambiguity and describing "the definition that focuses on size" as "the 'modern' (and most prevalent) definition").[4] Given the

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[4] See *Black's Law Dictionary* 1656 (10th ed. 2014) ("3. Important, essential, and material; of real worth and importance"; or "6. Considerable in amount or value; large in volume or number"); 17 *The Oxford English Dictionary* 67 (2d ed. 1989) ("5. a. That is, constitutes, or involves an essential part, point, or feature; essential, material"; or "9. Of ample or considerable amount, quantity, or dimensions. More recently also in a somewhat weakened sense,

inherent ambiguity of "substantial," the term's meaning within any particular provision must be assessed by reference to the context in which it appears and the purpose of the relevant law. Several contextual and purposive clues indicate that Congress did not intend Section 271(f)(1) to reach the supply of a single component, even where that component is important or indispensable to the invention's functioning.

1. It is a fundamental principle of statutory interpretation that "a word is known by the company it keeps." *McDonnell* v. *United States*, 136 S. Ct. 2355, 2368 (2016) (quoting *Jarecki* v. *G. D. Searle & Co.*, 367 U.S. 303, 307 (1961)). Section 271(f)(1) imposes liability for supplying "*all* or a substantial *portion* of the components of a patented invention." 35 U.S.C. 271(f)(1) (emphases added). Both "all" and "portion" convey a quantitative meaning. When used with a plural noun (here, "components"), "all" means "[t]he entire number of; the individual components of, without exception." 1 *The Oxford English Dictionary* 324 (2d ed. 1989). The term "portion" likewise refers to a quantity, of something less than all. See *Freeman* v. *Quicken Loans, Inc.*, 132 S. Ct. 2034, 2041-2042 & n.6 (2012) (collecting definitions).

If Congress had intended Section 271(f)(1) to turn on the qualitative importance of a particular compo-

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esp. 'fairly large'"); *Random House Webster's Unabridged Dictionary* 1897 (2d ed. 2001) ("1. of ample or considerable amount," or "8. important"); *Webster's New International Dictionary* 2514 (2d ed. 1958) ("3. That is of moment; important; essential; material" or "7. Considerable in amount, value, or the like; large; as, a *substantial* gain"); *Webster's Third New International Dictionary* 2280 (1993) ("important, essential"; or "considerable in amount, value, or worth"; "being that specified to a large degree or in the main") (capitalization omitted).

nent (or set of components) to the invention, it would have been far more natural to impose liability for supplying "all or a substantial portion *of a patented invention*" itself. That language would invite a comparison between the U.S.-supplied portion and the invention as a whole, asking whether the former is "important" or "essential." See 17 *The Oxford English Dictionary* 67. But Congress instead imposed liability for supplying "all or a substantial portion *of the components* of a patented invention." A "component" is "commonly defined as 'a constituent part,' 'element,' or 'ingredient.'" *Microsoft Corp.* v. *AT&T Corp.*, 550 U.S. 437, 449 n.11 (2007) (quoting *Webster's Third New International Dictionary* 466 (1981)). The phrasing of Section 271(f)(1) strongly suggests that what matters is the number of components supplied in relation to the total number that the invention contains, and whether the supplied portion is a large portion of the whole, not the relative importance of any individual component to the invention.

For example, a person might say that the chassis is a "substantial portion of a car." But nobody would say that the chassis alone is a "substantial portion of the parts of a car." A car consists of many parts, and one part (even if heavy, large, and critical to the car's operation) is not a substantial portion of them. Similarly, if a play has four acts and the fourth is the longest and has the climax of the story, one might say that the fourth is a "substantial portion of the show." But it would be odd to say that the fourth act itself constitutes "a substantial portion of the acts of the show." In federal law, a "tax return preparer" is defined as a person who prepares "all or a substantial portion of any return," which may include preparation of a "sin-

gle tax entry," depending on the relative "size and complexity" of that entry and the size of the understatement attributable to it. 26 C.F.R. 301.7701-15(a) and (b)(3)(i). But it would be odd to say that a person who prepares only a single tax entry, even if large and complex, prepares a "substantial portion *of the entries* in a return." Respondents' interpretation is no less strange.

2. In explaining its more expansive interpretation, the court of appeals stated that "[t]he dictionary definition of 'substantial' is 'important' or 'essential,'" and that "[n]othing in the ordinary meaning of 'portion' suggests that it necessarily requires a certain quantity." Pet. App. 28a (citations omitted). Those observations should have been the start rather than the end of the court's textual analysis, however, as the ordinary meaning of "substantial" also includes its quantitative definition. The court's approach also ignores the natural inference arising from a provision that refers to "*all or* a substantial portion of the components": Supplying one component is at the opposite end of the spectrum from supplying "all" of them.

The court of appeals' approach to determining the importance of a particular component exacerbates this problem. At one point in its opinion, the court suggested that Section 271(f)(1) may reach the supply of any component without which the invention "would be inoperable." Pet. App. 34a. But in practice, many inventions are rendered inoperable by the removal of even a relatively minor component, such as the spark plug of a car, a fuse in a radio, or the plug in the back of a computer. In this case, for example, eliminating any one of the five identified components of the pa-

tented invention would likely render the kits inoperable for reliably testing DNA.

If every component that is essential to an invention's operation is treated as a "substantial portion of the components," supply of a single component would not simply have the *potential* to trigger liability under Section 271(f)(1). Rather, supply of a single component would *routinely* have that effect. That approach would effectively negate both the "substantial portion" requirement of Section 271(f)(1), and the stringent limitations that Congress imposed in Section 271(f)(2), which specifically addresses the circumstances in which export of a single component can give rise to infringement liability. See pp. 17-22, *infra*. That approach in turn would have far-reaching implications for U.S. export trade.

The court of appeals' decision might alternatively be understood to prohibit the domestic supply of any "main" or "major" component of a patented invention. Pet. App. 34a (citation omitted). That approach is less expansive than one that turns on a particular component's impact on operability, but its application here indicates that it is similarly problematic. The court relied on the statement of petitioners' expert that *Taq* polymerase was a "main" component of respondent's patented invention, see *ibid.*, but the expert said the same thing about three of the five components that were identified during the proceedings below. See J.A. 160 ("[T]he main [components] are the primer mix, the reaction mix and the enzymes," and "[t]he enzyme would be the Taq").[5] If each of those three components is viewed as "a substantial portion of the

[5] The expert also identified "the Taq, reaction mix and then the allelic ladder" as its "major component[s]." J.A. 160.

components of [the] patented invention," and if each were supplied to the foreign manufacturer by a different U.S. company, all three U.S. companies could be held liable under Section 271(f)(1) for the overseas production of a single patented kit.

B. The Differences Between Section 271(f)'s Two Paragraphs Reinforce The Conclusion That Paragraph (1) Does Not Reach The Supply Of A Single Component

Section 271(f) contains two paragraphs, and a comparison between the two sheds further light on the proper understanding of Section 271(f)(1). Section 271(f)(2) provides that, in specified circumstances, a person who exports a single component of a patented invention from the United States will be liable for infringement. To preserve the distinct functions of the two paragraphs within the overall provision, Section 271(f)(1) should be understood to define the circumstances under which supply of multiple components from the United States can give rise to infringement liability, even if none of the exported components falls within Section 271(f)(2). Congress's consistent uses of the plural "components" in the first paragraph, and of the singular "component" in the second, reinforces that understanding.

1. Paragraph (2) specifically addresses the circumstances under which supply of a single component from the United States will give rise to infringement liability. It covers "any component of a patented invention that is especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use." 35 U.S.C. 271(f)(2). A person who supplies any such component, acting with the requisite intent, can be held liable for infringing the U.S. pa-

tent. *Ibid.* If Congress had intended also to ban the supply of any staple article that is a "main" or "major" component of a patented invention, or is essential for the invention to operate, paragraph (2) would have been the natural place to put that prohibition.

Under the court of appeals' interpretation of Section 271(f)(1), *both* paragraphs of Section 271(f) address (at least in part) the supply from the United States of single components. Yet as applied in cases like this one, paragraph (1) effectively negates Congress's careful exclusion from paragraph (2) of any "staple article or commodity of commerce suitable for substantial noninfringing use." 35 U.S.C. 271(f)(2). This is not a natural way to read a statute.

By contrast, if paragraph (1) is understood to require the supply of more than one component, the two paragraphs of Section 271(f) can serve distinct but complementary functions. Paragraph (2) defines the circumstances in which supply of a single component will give rise to liability. Paragraph (1) reflects Congress's determination that, even when no *individual* exported component is "especially made or especially adapted for use in the invention," a particular *set* of components taken together may be sufficiently close to the whole of the invention to warrant prohibition of its supply from the United States. Consistent with that understanding, this Court has observed in dicta that "the two paragraphs differ, among other things, on the quantity of components that must be 'supplie[d] . . . from the United States' for liability to attach." *Microsoft*, 550 U.S. at 454 n.16 (brackets in original).

2. Section 271(f)(1) prohibits the domestic supply of "all or a substantial portion of the *components* of a patented invention, where *such components* are un-

combined in whole or in part," to "actively induce the combination of *such components* outside of the United States." 35 U.S.C. 271(f)(1) (emphases added). Congress thus used the plural form "components" three times in Section 271(f)(1). The second of those uses is particularly significant. Congress's use of the plural term "such components" to describe what is exported from this country indicates that multiple components must be supplied from the United States in order to trigger the statutory ban.

The court of appeals believed (Pet. App. 29a), and respondent contends (Br. in Opp. 19-20), that the term "such components" in this provision refers to *all* of the components of the invention, not simply to those that are supplied from the United States. Paragraph (2), however, uses phrasing parallel to that of paragraph (1), prohibiting the supply of any "especially made" component "where such component is uncombined in whole or in part." 35 U.S.C. 271(f)(2). In paragraph (2), the only plausible referent for "such component" is the "especially made" component supplied from the United States. There is no sound reason to give the parallel term "such components" in paragraph (1) a starkly different meaning.

In rejecting this understanding of the phrase "such components," the court of appeals relied in part (Pet. App. 29a) on the fact that paragraph (1) ties liability to the "combination of *such components* outside of the United States *in a manner that would infringe the patent* if such combination occurred within the United States." 35 U.S.C. 271(f)(1) (emphases added). The court believed that, because combining fewer than all of the components domestically would not infringe a patent, the phrase "such components" must refer to

all of an invention's components, not simply to those supplied from the United States. See Pet. App. 29a. Paragraph (2) contains similar language, however, providing that an exporter can be held liable for supplying an "especially made" component only if the supplier "intend[s] that such component will be combined outside of the United States in a manner that would infringe the patent if such combination occurred within the United States." 35 U.S.C. 271(f)(2). Because paragraph (2) is directed at supply of "any" singular "component," the provision clearly contemplates that "such component will be combined" with *other* (unspecified) components abroad to produce the patented invention. *Ibid.*[6]

Paragraph (1) should be construed in the same manner. The term "such components" (like the term "such component" in paragraph (2)) refers to what is supplied from the United States. And paragraph (1)'s reference to the "combination of such components

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[6] Respondent suggests that "such components" must refer to all of the components of a patented invention because Section 271(f)(1) specifies that liability attaches "where such components are uncombined in whole or in part." Br. in Opp. 20 (citation omitted). Otherwise, respondent asserts (*ibid.*), manufacturers could evade liability "simply by combining the U.S.-supplied components together into a single component before shipping it abroad for further assembly into the patented invention." For purposes of Section 271(f)(1), however, a set of components supplied from the United States in that manner would properly be described as "uncombined * * * in part," since it still must be combined with at least one other component to produce the patented invention. That reading is supported by Section 271(f)(2)'s allusion to a *single* component that is "uncombined in whole or in part," which clearly refers to the combination (or lack thereof) of that component with other components. A domestic supplier therefore could not circumvent Section 271(f)(1) in this manner.

* * * in a manner that would infringe the patent" encompasses (in cases where fewer than all of the components are supplied from the United States) the combining of the exported components with the remaining components of the invention.

3. Section 271(f)(1) imposes infringement liability only if the domestic supplier acts "in such manner as to actively induce the combination of such components outside of the United States in a manner that would infringe the patent if such combination occurred within the United States." 35 U.S.C. 271(f)(1). To "actively induce" such a combination, a supplier must intend to bring it about. Cf. *Global-Tech Appliances, Inc.* v. *SEB S.A.*, 563 U.S. 754, 759-766 (2011) (construing 35 U.S.C. 271(b)). Respondent suggests (Br. in Opp. 1-2, 24) that the intent element in Section 271(f)(1) adequately protects suppliers from untoward liability for exporting single components.

Section 271(f)(2), however, contains substantially the same intent element. To be liable under that provision, an exporter must "intend[]" that the component supplied from the United States "will be combined outside of the United States in a manner that would infringe the patent if such combination occurred within the United States." 35 U.S.C. 271(f)(2). Congress nevertheless limited Section 271(f)(2) to the supply from the United States of a component "that is especially made or especially adapted for use in the [patented] invention and not a staple article or commodity of commerce suitable for substantial noninfringing use." *Ibid.* Congress thus specifically declined to impose infringement liability under Section 271(f)(2) for exporting a single staple article, *even when* the supplier knows and intends that it will be used to

manufacture a patented invention abroad. Thus, notwithstanding Section 271(f)(1)'s intent element, application of that provision to the export of a single component would subvert a congressional policy choice that is reflected in Section 271(f)(2).

C. The Statutory Purpose And Practical Considerations Reinforce The Conclusion That Section 271(f)(1) Does Not Reach The Supply Of A Single Component

1. Congress enacted Section 271(f)(1) in response to this Court's decision in *Deepsouth*. The defendant in *Deepsouth* manufactured, within the United States, all of the components of a multiple-component invention that was subject to its competitor's U.S. patent. 406 U.S. at 523-524. It then exported those components, as a coordinated package, for ready combination abroad. See *id.* at 524 ("the whole [is] assemblable in less than one hour"). The Court held that this course of conduct did not infringe the U.S. patent because the invention was not made until the components were assembled abroad, where U.S. patent law does not apply. See *id.* at 525-529.

"Section 271(f) was a direct response to a gap in our patent law revealed by" *Deepsouth*. *Microsoft*, 550 U.S. at 457. Section 271(f)(1) prevents a domestic supplier from effectively making a patented invention in the United States and then exporting it, while avoiding infringement liability, by supplying the final product in disassembled form for assembly abroad. Section 271(f)(1) ensures that, "when components are supplied for assembly abroad to circumvent a patent, the situation will be treated the same as when the invention is 'made' or 'sold' in the United States." S. Rep. No. 663, 98th Cong., 2d Sess. 3 (1984).

If Congress had limited Section 271(f)(1) to the supply of "all the components" of an invention, however, the new anti-evasion rule would itself have been readily evaded. Under such a statute, a domestic supplier could have avoided liability by supplying all but one of the components to the foreign assembler. Congress's addition of the phrase "or a substantial portion" closed that potential loophole.

Section 271(f)(1) is thus properly understood in light of its purpose and history to cover, but be limited to, conduct that approximates the degree and kind of evasion that was involved in *Deepsouth*: Conduct that is tantamount to making the patented invention itself in the United States and then exporting it. By contrast, if Section 271(f)(1) is construed to reach the supply of any important component of an invention, it will outlaw conduct far afield from the circumvention that prompted Congress to act. While the export of all or something close to all of the components for assembly abroad can reasonably be viewed as the functional equivalent of manufacturing the patented invention in the United States for export, the domestic supply of a single staple article cannot reasonably be so regarded. Nothing in Section 271(f)(1)'s text or history suggests that Congress intended to reach so far beyond the type of conduct that prompted its enactment. When a product is made abroad and all of its components are supplied from abroad except a single, staple article of commerce is supplied from the United States, Congress left that predominately foreign conduct to be regulated by foreign law.

2. The court of appeals' interpretation of Section 271(f)(1) is also less workable and measured than the competing approaches.

a. The court of appeals suggested at one point in its opinion that any component without which a patented invention "would be inoperable" may constitute a "substantial portion" of the components of that invention. Pet. App. 34a. "That version of the argument has the virtue of resting on a general principle—but the vice of being implausible." *Bullard* v. *Blue Hills Bank*, 135 S. Ct. 1686, 1694 (2015). Indeed, it effectively reads "all or a substantial portion of the components" to mean something close to "any component."

The court of appeals also suggested that a single component qualifies as "all or a substantial portion of the components" if it is a "main" or "major" component. Pet. App. 34a (citation omitted). But the court did not articulate what makes a component "main" or "major," and its expansive application of those terms here—which would reach three of the five identified components of the patented kits—suggests that those terms are both vague and broad. Nor does any approach that turns on qualitative importance appear to be conceptually stable or administrable. Respondent did not identify a workable standard in its brief in opposition, stating that "[s]ubstantiality is a fact question that requires a case-specific analysis of what is being supplied from the United States and its relationship to the patented invention across multiple dimensions." Br. in Opp. 16. Without more meaningful guidance, domestic suppliers of staple components to foreign manufacturers cannot accurately assess their potential liability before exporting such goods. And it is unlikely that, in reaction to *Deepsouth*, Congress intended to mandate a freewheeling inquiry that would expose American exporters of staple articles of

commerce to potentially broad and unpredictable liability.

b. It is more workable and measured—and more faithful to the statutory text, context, and purpose—to ask whether a defendant has supplied all or something close to all of the components of a patented invention, not just one.

At the outset, for many of the same reasons that Section 271(f)(1) is limited to the supply of multiple components, it is also best read to be limited to the supply of all or something close to all of the total number of components. As set forth above, the phrase "all or a substantial portion of the components" refers to all or a large portion of the total number of components. Furthermore, that phrase is naturally read to refer to a larger proportion of the components than if Congress had omitted "all or" and had simply imposed liability for supplying a "substantial portion of the components." "All" here means 100% of the components, and the phrase "all or a substantial portion" in turn conveys that a "substantial portion" is closer to 100%. Cf. Daniel Kahneman, *Thinking, Fast and Slow* 119-120 (2011) ("Any number that you are asked to consider as a possible solution to an estimation problem will induce an anchoring effect.").

Section 271(f)(1)'s purpose and history also suggest not only that the supply of a single component is insufficient, see pp. 22-23, *supra*, but also that Section 271(f)(1) should be construed to reach situations that involve approximately the same degree and kind of evasion as the conduct at issue in *Deepsouth*—tantamount to manufacturing the invention in the United States for export—and therefore not to apply when the product is made abroad and the domestically-

supplied portion is not even close to the total number of components. And the presumption against extraterritoriality reinforces this interpretation, as it tugs against construing "all or a substantial portion" broadly, and in favor of a modest construction tailored to the *Deepsouth* paradigm. See pp. 28-31, *infra*. Section 271(f)(1) therefore is properly interpreted to reach the supply of all or something close to all of the total, a standard that is akin to, though less stringent than, "all or virtually all" or "all or nearly all."

The inquiry involves counting the components supplied from the United States and comparing that to the total number of components. In many cases it will be clear whether the U.S.-supplied portion of the invention's components is all or something close to all of the total. In some borderline cases, the determination whether the supplied portion is something close to all of the components will depend on the size of that portion, and whether the export of that portion is appropriately viewed as the functional equivalent of exporting the invention itself. Despite the existence of close cases, that test is workable, easy to understand, and faithful to Congress's anti-evasion purposes.

To be sure, it would be even clearer to supply a rigid numerical threshold for "substantial." But it is not textually plausible to adopt a bright-line cutoff (*e.g.*, 75% of the invention's components), and any such rigid threshold would invite evasion (as by the supply of 70% of the invention's components) of a statute that is designed to prevent evasion. Any viable interpretation of Section 271(f)(1) accordingly will present some line-drawing problems. But an approach that treated Section 271(f)(1) as applicable to a single "main" or "major" component would produce greater practical

difficulties, since the need for drawing lines would potentially arise in every single-component case. It would also be duplicative, as Congress has already supplied a clear and workable standard in Section 271(f)(2) for identifying situations where the supply of a single component is sufficiently culpable to warrant liability: If that component is "especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use." 35 U.S.C. 271(f)(2).

c. To apply Section 271(f), one must identify the invention's "components." In *Microsoft*, this Court explained that the term "component" is "commonly defined as 'a constituent part,' 'element,' or 'ingredient.'" 550 U.S. at 449 n.11 (citation omitted). The Court also noted that Section 271(f)(1) contemplates "'components' amenable to 'combination,'" *id.* at 449, and suggested that the provision does not reach items that are not "combinable," *id.* at 450. This case does not present any question concerning the proper approach for identifying "components," however, because it comes to the Court on the assumptions that *Taq* polymerase is a "component," that the kits are made from at least four additional components, and that petitioners are entitled to judgment as a matter of law unless the domestic supply of *Taq* polymerase alone is sufficient to trigger liability under Section 271(f)(1). Pet. App. 8a, 51a-52a.[7] For the reasons set

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[7] The starting point for identifying "components" is to examine the elements of the relevant patent claim to identify constituent parts that are capable of being combined into the final product, as the court of appeals did here when it identified five components from five claim elements. See Pet. App. 7a-8a. Parts that are included in the physical embodiment of an invention, but are not

forth above, Section 271(f)(1) does not apply when a product is manufactured abroad and all but one of the components are supplied from abroad.

D. The Presumption Against Extraterritoriality Resolves Any Lingering Ambiguity

The presumption against extraterritorial application of U.S. law resolves any remaining uncertainty as to whether Section 271(f)(1) imposes liability when a product is manufactured and sold abroad, and all but one of the components are supplied from abroad. Under that presumption, "courts should 'assume that legislators take account of the legitimate sovereign interests of other nations when they write American laws,'" as "[f]oreign conduct is generally the domain of foreign law." *Microsoft*, 550 U.S. at 455 (citations and brackets omitted).

The Court in *Microsoft* described Section 271(f)(1) as "an exception to the general rule that our patent law does not apply extraterritorially," in that it imposes liability for domestic conduct (shipping components from the United States) that induces particular foreign conduct (the manufacture in a foreign country of an invention that is patented in the United States). 550 U.S. at 442. The Court thus recognized that, on any plausible reading, Section 271(f)(1) will have *some* impact on foreign conduct because "Congress enacted

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covered by any element of the patent claim, thus do not qualify. A future Deepsouth thus could not evade liability by supplying the very same components, while omitting any screws, bolts, or rivets that hold the assembled invention together, and claiming that each screw or other fastener constitutes a distinct "component." Assuming that no element of the patent claim covers the screws, bolts, or rivets, they would be irrelevant to the infringement inquiry under Section 271(f)(1).

§ 271(f) specifically to extend the reach of United States patent law to cover certain activity abroad." *Id.* at 455. But the Court explained that, because the *scope* of liability under Section 271(f)(1) will affect the foreign conduct of the recipients of the components, the presumption against extraterritoriality "remains instructive in determining the *extent* of" the provision's coverage. *Id.* at 456; see *Smith* v. *United States*, 507 U.S. 197, 204 (1993).

If Section 271(f)(1) is construed to cover only those defendants who have supplied all or something close to all of a patented invention's components from the United States, the proscribed domestic conduct is tantamount to domestically manufacturing a patented invention for export, and liability under Section 271(f)(1) so construed is closely tied to circumvention of the primary protections in Section 271(a). Although application of Section 271(f)(1) to those suppliers will have a practical impact on the activities of foreign assemblers, Congress clearly anticipated and intended that extraterritorial effect. Except in those situations where the domestic entity supplies all or something close to all of an invention's components, or supplies a component "that is especially made or especially adapted for use in [a patented] invention," 35 U.S.C. 271(f)(2), foreign manufacturing and sales will be governed by the laws of the nations where those activities occur. That approach respects the principle that U.S. patent law does not apply outside the United States, see *Microsoft*, 550 U.S. at 454-455, and "helps the potentially conflicting laws of different nations work together in harmony—a harmony particularly needed in today's highly interdependent commercial

world," *F. Hoffmann-La Roche Ltd.* v. *Empagran S.A.*, 542 U.S. 155, 164-165 (2004).

Under the court of appeals' approach, by contrast, Section 271(f)(1) can apply even when every step but one within the process of manufacture, supply, and sale occurs abroad. That reading would impinge upon "legitimate [foreign] sovereign interests," *Microsoft*, 550 U.S. at 455, by preventing citizens of foreign countries from importing staple articles of commerce and combining them with components manufactured in their own countries. More broadly, it would undermine the efforts of foreign nations to strike an appropriate balance between allowing open competition and using patents to promote innovation.

Congress should not be deemed to have intended those consequences unless it has clearly expressed that intent. At the very least, Section 271(f)(1) does not clearly cover the supply from the United States of a single staple article, even when that article is an important component of an invention that is patented in the United States. That is a sufficient basis for finding Section 271(f)(1) to be inapplicable here.

CONCLUSION

The judgment of the court of appeals should be reversed.

Respectfully submitted.

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